

CLAIMS

1. A method of tank leak diagnosis in a tank ventilation device including a fuel tank which is connected at least indirectly through a storage and a tank ventilation valve with a suction pipe of an internal combustion engine of the vehicle, with the storage having an aeration conduit with a check valve, the method comprising the steps of performing a tank leak diagnosis by a negative pressure after turning off of the internal combustion engine; and producing the negative pressure in the fuel tank immediately before the turning off of the internal combustion engine.

2. A method as defined in claim 1, wherein said negative pressure producing step includes producing the negative pressure in the fuel tank by closing of a flow element and at least partial opening of the tank ventilation valve, and maintaining the negative pressure approximately constant subsequently in a pressure regulating phase by regulation to a predetermined value.

3. A method as defined in claim 2, wherein said regulation of the negative pressure to the predetermined value includes regulating by a regulation selected from the group consisting of a two-point regulation and a continuous regulation.

4. A method as defined in claim 1; and further comprising closing the tank ventilation valve when the internal combustion engine is turned off.

5. A method as defined in claim 1; and further comprising producing the negative pressure in the fuel tank when a turning off signal is formed in a motor control.

6. A method as defined in claim 5, wherein said forming of a turning off signal includes producing the turning off signal when from characteristic variables of the motor control a preliminary turning off of the internal combustion engine is suspected.

7. A method as defined in claim 6; and further comprising selecting as the characteristic variable of the motor control a characteristic variable selected from the group consisting of a rotary speed, an operational condition, and a transmission stage of the internal combustion engine.

8. A method as defined in claim 5, wherein forming said turning off signal includes producing the turning off signal when a switching means which switches off the internal combustion engine is actuated.

9. A method as defined in claim 8; and further comprising turning off of the internal combustion engine after a time delay for actuation of the switching means which switches off the internal combustion engine.

10. A method as defined in claim 1; and further comprising measuring the negative pressure in the fuel tank by a pressure sensor.